

IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application. The following listing provides the amended claims with deleted material crossed out and new material underlined to show the changes made.

16. (Original) A computer implemented method for automating integration of terminological information into a knowledge base, said method comprising the steps of:

receiving, into a computer, input terminology information comprising a plurality of input terms and information that specifies ontological relationships among at least two of said input terms;

storing, in said computer, a knowledge base comprising a plurality of ontologies, each one of said ontologies comprising a plurality of nodes hierarchically arranged to depict ontological relationships among said nodes, each node representing a term;

parsing said input terminology information to generate a logical structure that depicts ontological relationships among said input terms in a format compatible with said knowledge base;

determining whether at least one input term exists as a node in said knowledge base;

generating a new and independent ontology for said knowledge base comprising said logical structure of said ontological relationships if none of said input terms exist as nodes in said knowledge base; and

extending said knowledge base by storing data that logically couples said logical structure of said ontological relationships to a node that matches an input term.

17. (Previously Presented) A computer implemented method for automating integration of terminological information into a knowledge base, said method comprising the steps of:

receiving, into a computer, input terminology information comprising a plurality of input terms and relationship information about at least two of said input terms, said relationship information specifying ontological relationships among at least two of said input terms;

storing, in said computer, a knowledge base comprising a plurality of ontologies, each one of said ontologies comprising a plurality of nodes, each node representing a term, and comprising associations among said nodes that depict ontological relationships among respective terms;

storing a mapping of said relationship information in a format compatible with said ontological relationships depicted in said knowledge base;

generating a logical structure from said relationship information, said input terms and said mapping that depicts ontological relationships among said input terms; and integrating said logical structure of said input terms into said knowledge base.

18. (Previously Presented) The method as set forth in claim 17, wherein integrating said logical structure of said input terms into said knowledge base comprises:

determining whether at least one input term exists as a node in said knowledge base;

if so, extending said knowledge base by storing data that logically couples

said logical structure of said ontological relationships to a node that matches an input term; and

if not, generating a new and independent ontology for said knowledge base comprising said logical structure of said ontological relationships.

19. (Previously Presented) The method as set forth in claim 18, further comprising:

determining whether an input term that matches a node in said knowledge base connotes a different meaning than said term associated with a node;

if so, then:

deleting said node from its existing one or more associations;
logically coupling any hierarchical associations, if any, with said node so as to bypass said node deleted;
generating a new node for said input term; and
integrating said new node into said knowledge base based on ontological relationships with associated nodes.

20. (Previously Presented) The method as set forth in claim 17, further comprising generating alternate forms for said input terms prior to integrating said logical structure of said input terms into said knowledge base.

21. (Previously Presented) The method as set forth in claim 17, wherein

receiving information that specifies ontological relationships among at least two of said input terms comprises receiving information in an ISO 2788 format.

22. (Previously Presented) The method as set forth in claim 17, wherein:

receiving input terminology information comprises receiving broader term (“BT”) and narrower term (“NT”) relationships among two input terms;

storing a knowledge base comprising associations among said nodes that depict ontological relationships among respective terms comprises storing categories hierarchically arranged to include parent – child relationships and child – parent relationships among categories related hierarchically;

mapping said relationship information comprises mapping BT relationships to parent – child relationships among categories in said knowledge base and comprises mapping NT relationships to child – parent relationships among categories in said knowledge base; and

generating a logical structure comprises generating a parent – child relationship between two terms comprising a BT relationship in said input terminological information, and generating a child-parent relationship between two terms comprising a narrower term (NT) relationship in said input terminological information.

23. (Previously Presented) The method as set forth in claim 17, wherein:

receiving input terminology information comprises receiving synonym relationships between two terms;

storing a knowledge base comprising associations among said nodes that depict ontological relationships among respective terms comprises storing cross reference associations between nodes;

mapping said relationship information comprises mapping synonym relationships between two terms to cross reference associations between nodes; and

generating a logical structure comprises generating a cross reference association between two terms comprising a synonym relationship in said input terminological information.

24. (Previously Presented) The method as set forth in claim 17, wherein:

receiving input terminology information comprises receiving related term (“RT”) relationships among at least two input terms;

storing a knowledge base comprising associations among said nodes that depict ontological relationships among respective terms comprises storing cross reference associations between nodes;

mapping said relationship information comprises mapping RT relationships between two terms to cross reference associations between nodes; and

generating a logical structure comprises generating a cross reference association between two terms comprising a RT relationship in said input terminological information.

25. (Previously Presented) The method as set forth in claim 17,
wherein:

receiving input terminology information comprises receiving preferred term (“PT”) relationships among at least two input terms;

storing a knowledge base comprises storing a canonical/alternate form index that indexes a canonical form from one or more alternative forms; and

generating a logical structure comprises generating a canonical/alternate form index between terms comprising a preferred term (PT) relationship in said input terminological information.

26. (Previously Presented) A computer readable medium comprising a set of instructions, which when executed, cause the computer to perform the steps of:

receiving, into a computer, input terminology information comprising a plurality of input terms and relationship information about at least two of said input terms, said relationship information specifying ontological relationships among at least two of said input terms;

storing, in said computer, a knowledge base comprising a plurality of ontologies, each one of said ontologies comprising a plurality of nodes, each node representing a term, and comprising associations among said nodes that depict ontological relationships among respective terms;

storing a mapping of said relationship information in a format compatible with said ontological relationships depicted in said knowledge base;

generating a logical structure from said relationship information, said input terms and said mapping that depicts ontological relationships among said input terms; and integrating said logical structure of said input terms into said knowledge base.

27. (Previously Presented) The computer readable medium as set forth in claim 26, wherein integrating said logical structure of said input terms into said knowledge base comprises:

determining whether at least one input term exists as a node in said knowledge base;

if so, extending said knowledge base by storing data that logically couples said logical structure of said ontological relationships to a node that matches an input term; and

if not, generating a new and independent ontology for said knowledge base comprising said logical structure of said ontological relationships.

28. (Previously Presented) The computer readable medium as set forth in claim 27, further comprising:

determining whether an input term that matches a node in said knowledge base connotes a different meaning than said term associated with a node;

if so, then:

deleting said node from its existing one or more associations;

logically coupling any hierarchical associations, if any, with said node so as to bypass said node deleted;
generating a new node for said input term; and
integrating said new node into said knowledge base based on ontological relationships with associated nodes.

29. (Previously Presented) The computer readable medium as set forth in claim 26, further comprising generating alternate forms for said input terms prior to integrating said logical structure of said input terms into said knowledge base.

30. (Previously Presented) The computer readable medium as set forth in claim 26, wherein receiving information that specifies ontological relationships among at least two of said input terms comprises receiving information in an ISO 2788 format.

31. (Previously Presented) The computer readable medium as set forth in claim 26, wherein:

receiving input terminology information comprises receiving broader term (“BT”) and narrower term (“NT”) relationships among two input terms;
storing a knowledge base comprising associations among said nodes that depict ontological relationships among respective terms comprises storing categories hierarchically arranged to include parent – child relationships and child – parent relationships among categories related hierarchically;

mapping said relationship information comprises mapping BT relationships to parent – child relationships among categories in said knowledge base and comprises mapping NT relationships to child – parent relationships among categories in said knowledge base; and

generating a logical structure comprises generating a parent – child relationship between two terms comprising a BT relationship in said input terminological information, and generating a child-parent relationship between two terms comprising a narrower term (NT) relationship in said input terminological information.

32. (Previously Presented) The computer readable medium as set forth in claim 26, wherein:

receiving input terminology information comprises receiving synonym relationships between two terms;

storing a knowledge base comprising associations among said nodes that depict ontological relationships among respective terms comprises storing cross reference associations between nodes;

mapping said relationship information comprises mapping synonym relationships between two terms to cross reference associations between nodes; and

generating a logical structure comprises generating a cross reference association between two terms comprising a synonym relationship in said input terminological information.

33. (Previously Presented) The computer readable medium as set forth in claim 26, wherein:

receiving input terminology information comprises receiving related term (“RT”) relationships among at least two input terms;

storing a knowledge base comprising associations among said nodes that depict ontological relationships among respective terms comprises storing cross reference associations between nodes;

mapping said relationship information comprises mapping RT relationships between two terms to cross reference associations between nodes; and

generating a logical structure comprises generating a cross reference association between two terms comprising a RT relationship in said input terminological information.

34. (Previously Presented) The computer readable medium as set forth in claim 26, wherein:

receiving input terminology information comprises receiving preferred term (“PT”) relationships among at least two input terms;

storing a knowledge base comprises storing a canonical/alternate form index that indexes a canonical form from one or more alternative forms; and

generating a logical structure comprises generating a canonical/alternate form index between terms comprising a preferred term (PT) relationship in said input terminological information.